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Application Number: 09/847,534

Filing Date: 5/1/2001

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1. Fee Transmittal
2. Petition for Extension of Time
3. Appeal Brief

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Effective on 12/08/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). # FEE TRANSMITTAL ## For FY 2005	Complete if Known	
	Application Number	09/847,534
	Filing Date	5/1/2001
	First Named Inventor	Lev Novik
☐ Applicant claims small entity status. See 37 CFR 1.27	Examiner Name	LEWIS ALEXANDER BULLOCK Jr.
	Art Unit	2126
TOTAL AMOUNT OF PAYMENT ($) 500.00	Attorney Docket No.	MS1 0694US

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	Small Entity Fee ($)	SEARCH FEES Fee ($)	Small Entity Fee ($)	EXAMINATION FEES Fee ($)	Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)		Multiple Dependent Claims	
_____ - 20 or HP = _____	x 50	= _____			Fee ($)	Fee Paid ($)
HP = highest number of total claims paid for, if greater than 20					_____	_____
Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)			
_____ - 3 or HP = _____	x 200	= _____				
HP = highest number of independent claims paid for, if greater than 3						

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____	= _____

4. OTHER FEE(S)

Non-English Specification, $130 fee (no small entity discount)

Other: Appeal Brief

Fees Paid ($): 500.00

SUBMITTED BY

Signature	[signature]	Registration No. (Attorney/Agent) 39384	Telephone (509) 324-9256
Name (Print/Type) Steven R. Sponseller			Date 12-23-04

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. 09/847,534
Filing Date .... May 1, 2001
Inventor.. Novik et al.
Group Art Unit 2162
Examiner .... Bullock Jr, Lewis Alexander
Attorney's Docket No. MS1-694US
Confirmation No... 4018
Title: Method and Apparatus for Correlating Events

APPEAL BRIEF

To: Commissioner for Patents
        P.O. Box 1450
        Alexandria, Virginia 22313-1450

From: Steven R. Sponseller (Tel. 509-324-9256 x250; Fax 509-323-8979)
        Customer No. 22801

Pursuant to 37 C.F.R. §41.37, Appellant hereby submits an appeal brief

for application 09/847,534, filed May 1, 2001, within the requisite time from the date

of filing the Notice of Appeal. Accordingly, Appellant appeals to the Board of

Patent Appeals and Interferences seeking review of the Examiner's rejections.

Appeal Brief Items   Page

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(1)   Real Party in Interest

The real party in interest is Microsoft Corporation, the assignee of all right, title and interest in and to the subject invention.

(2)   Related Appeals and Interferences

Appellant is not aware of any other appeals, interferences, or judicial proceedings which will directly affect, be directly affected by, or otherwise have a bearing on the Board's decision to this pending appeal.

(3)   Status of Claims

Claims 1-43 stand rejected and are pending in this Application. Claims 1-43 are appealed. Some of claims 1-43 were previously amended. Claims 1-43 are set forth in the Appendix of Appealed Claims on page 16.

(4)   Status of Amendments

A Final Office Action was issued on June 15, 2004.

A Response to the Final Office Action was filed July 20, 2004. No amendments were made as part of this Response.

An Advisory Action was issued on August 30, 2004, indicating that the request for reconsideration had been considered but did not place the application in condition for allowance.

Appellant filed a Notice of Appeal on September 24, 2004 in response to the Advisory Action and the Final Office Action.

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(5)   Summary of Claimed Subject Matter

A concise explanation of each of the independent claims is included in this Summary section, including specific reference characters. These specific reference characters are examples of particular elements of the drawings for certain embodiments of the claimed invention, and the claims are not limited to solely the elements corresponding to these reference characters.

With respect to independent Claim 1, as discussed for example at page 13, line 13 through page 14, line 11, a method includes receiving a plurality of events (402). The method further includes applying the plurality of events to a correlation function (408), wherein the correlation function is implemented as a state machine and is configured to correlate the plurality of events. A specific event is generated (408) if the correlation function is satisfied by the plurality of events.

With respect to independent Claim 11, as discussed for example at page 15, lines 10 through 22, a method includes receiving a plurality of events and receiving a plurality of data elements (602). The method further includes identifying a plurality of correlation functions configured to correlate the plurality of events and the plurality of data elements (602). Additionally, the method applies the plurality of events and the plurality of data elements to the plurality of correlation functions (604) and generates a specific event (610) if at least one of the plurality of correlation functions is satisfied.

With respect to independent Claim 20, as discussed for example at page 15, line 23 through page 16, line 13, a method includes identifying a schema for creating state machines (702) to correlate at least two events. The method further

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includes creating an instance of a particular state machine (704) and defining transitions for the particular state machine by subscribing to at least one event (706). The method then applies an update consumer to the particular state machine to update the state of the particular state machine (708).

With respect to independent Claim 28, as discussed for example at page 12, line 3 through page 13, line 12, and page 14, line 12 through page 15, line 9, an apparatus includes a plurality of event consumers (316, 322, 328 and/or 334) and an event correlator (310 and/or 502) coupled to the plurality of event consumers. The event correlator (310 and/or 502) receives events (302 and/or 504) from at least one event source and receives data elements (506) from at least one data source. The event correlator (310 and/or 502) also receives at least one correlation function (508) configured to correlate events (302 and/or 504) and data elements (506), and to apply the received events and the received data elements to the correlation function. The event correlator (310 and/or 502) also generates a specific event (510) if the received events and the received data satisfy the correlation function.

With respect to independent Claim 35, as discussed for example at page 15, lines 10 through 22, and page 26, line 7 through page 27, line 10, a computer-readable media (808, 810, 814, 818 and/or 822) has stored thereon a computer program that, when executed by one or more processors (802), causes the one or more processors to receive a plurality of events (602). Additionally, the one or more processors identify a plurality of correlation functions (602) configured to correlate the plurality of events. The one or more processors also apply the plurality of events to the plurality of correlation functions (604 and/or 606) to

determine whether any of the correlation functions are satisfied by the plurality of events. A specific event is generated (610) if one of the plurality of correlation functions is satisfied by the plurality of events.

With respect to independent Claim 40, as discussed for example at page 15, lines 10 through 22, a method includes receiving events from event providers (602) and correlating the events using a function (604 and/or 606). If the events are correlated, the method generates an additional event and sends the additional event to an event consumer (610).

(6)   Grounds of Rejection to be Reviewed on Appeal

Claims 1-43 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,138,171 to Walker.

(7)   Argument

A.   Rejection under 35 U.S.C. §102(e) over U.S. Patent No. 6,138,171 to Walker.

Claims 1-43 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,138,171 to Walker (hereinafter "Walker").

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1. **Claims 1-10**

Claim 1 recites a method comprising:

receiving a plurality of events;
applying the plurality of events to a correlation function, wherein the correlation function is implemented as a state machine and is configured to correlate the plurality of events; and
generating a specific event if the correlation function is satisfied by the plurality of events.

Thus, the method of Claim 1 employs a correlation function that is configured to correlate events. Particularly, the method applies the events to the correlation function and generates a specific event if the correlation function is satisfied by the received events. As defined in the Appellant's application, the correlation function recited in Claim 1 may include, for example:

An example correlation function that correlates two events generates an email message when two different server crashes occur within five second of one another. (Appellant's application, page 16, lines 17-19).

Walker does not disclose or suggest the use of such a correlation function to process events. In contrast, Walker merely describes a generic software state machine for implementing a software application in an object oriented environment. (See Walker, Abstract).

Regarding the software state machine's event processing capabilities, Walker states:

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In software state machine 10, the responsibilities assigned to event functions are limited to processing the received event and determining if a logical state change is required. (Walker, col. 7, lines 38-41).

The software state machine described by Walker is configured to process each received event by either changing or not changing a logical state. However, nothing in Walker discloses or suggests that the software state machine is capable of correlating multiple events. Furthermore, Walker also fails to disclose or suggest generating a specific event if the correlation function is satisfied by the events. Thus, the generic software state machine and its related components described by Walker are not equivalent to the correlation function recited in Claim 1.

The June 15, 2004 Office Action argues that:

Walker teaches applying events to a correlation function, i.e. a state machine capable of handling the event, and if the correlation function is satisfied, i.e. if a logical state change is required or the cited state machine does not handle the event, generating and sending a specific event, i.e. communicating with another state machine via an internal event. (June 15, 2004 Office Action, page 10).

As discussed above, the state machine described by Walker can process an event. But processing an event is not equivalent to correlating multiple events. Also, Walker describes that two state machines can communicate with one another. However, the communications between state machines are used for routing an event to a state machine that has been delegated the responsibility to process it. (See Walker, col. 7, lines 47-62). This routed event is merely an existing event and not another specific event that is generated if the correlation function is

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satisfied by the received event. Thus, Walker fails to disclose or suggest the subject matter recited in Claim 1.

For at least these reasons, Appellant respectfully submits that Claim 1 is not anticipated by Walker. Given that Claims 2-10 depend from Claim 1, Appellant respectfully submits that those claims are likewise allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 1-10 are allowable over Walker and that the rejection of Claims 1-10 should be withdrawn.

2.   Claims 11-19

Claim 11 recites a method comprising:

> receiving a plurality of events;
> receiving a plurality of data elements;
> identifying a plurality of correlation functions configured to
> correlate the plurality of events and the plurality of data elements;
> applying the plurality of events and the plurality of data elements to
> the plurality of correlation functions; and
> generating a specific event if at least one of the plurality of
> correlation functions is satisfied.

As defined in the Appellant's application, data elements may include, <u>for example</u>, "the available disk space, the current memory utilization, and the number of users logged into particular servers". (Appellant's application, page 16, lines 15-17). Also, according to the definition in the Appellant's application, the correlation function recited in Claim 11 may include, for example:

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An example correlation function that correlates an event with data generates an event when a server crashes and the available storage space on the server's hard drive is less than five megabytes. Another example correlation function pages an administrator when the available storage space on a server's hard disk stays below ten megabytes for at least five minutes. (Appellant's application, page 16, lines 19-23).

As discussed above, although the Walker reference describes the processing of an event, the reference does not disclose or suggest a method that uses a correlation function configured to correlate events and that <u>generates a specific event</u> if the correlation function is satisfied by the events. Furthermore, Walker also fails to disclose or suggest a correlation function that correlates both events and data elements. For at least the reasons stated above, Appellant respectfully submits that Claim 11 is not anticipated by Walker and is allowable. Given that Claims 12-19 depend from Claim 11, Appellant respectfully submits that those claims are likewise allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 11-19 are allowable over Walker and that the rejection of Claims 11-19 should be withdrawn.

3.   **Claims 20-27**

Claim 20 recites a method comprising:

identifying a schema for creating state machines, the state machines to correlate at least two events;
creating an instance of a particular state machine;
defining transitions for the particular state machine by subscribing to at least one event; and

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applying an update consumer to the particular state machine to
update the state of the particular state machine.

As discussed above, Walker does not disclose or suggest a correlation function
configured to correlate events where the correlation function is implemented as a
state machine. Walker also fails to disclose identifying a schema for creating such
a state machine.

The June 15, 2004 Office Action suggests that Walker describes the use of
a configuration file. (June 15, 2004 Office Action, page 6). This configuration
file is merely used to specify and define objects. But the configuration file is not a
schema for creating state machines to correlate events, as recited in Claim 11. The
June 15, 2004 Office Action also suggests that Walker describes that a
programmer can modify the configuration file. (June 15, 2004 Office Action,
page 6). According to Claim 20, the state of the particular state machine is
updated by "applying an update consumer to the particular state machine".
However, the method in Claim 20 does not require a programmer to modify a file.
Thus, Walker fails to disclose or suggest the subject matter recited in Claim 20.

For at least the reasons stated above, Appellant respectfully submits that
Claim 20 is not anticipated by Walker and is allowable. Given that Claims 21-27
depend from Claim 20, Appellant respectfully submits that Claims 21-27 are also
allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 20-27 are
allowable over Walker and that the rejection of Claims 20-27 should be
withdrawn.

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4.   Claims 28-34

Claim 28 recites an apparatus comprising:

> a plurality of event consumers; and
> an event correlator coupled to the plurality of event consumers, the event correlator to receive events from at least one event source and to receive data elements from at least one data source, the event correlator further to receive at least one correlation function configured to correlate events and data elements and to apply the received events and the received data elements to the correlation function, wherein the event correlator generates a specific event if the received events and the received data satisfy the correlation function.

As discussed above, Walker does not disclose using a correlation function configured to correlate events and data elements and generating a specific event if the received events and the received data satisfy the correlation function. Accordingly, Walker also fails to disclose the event correlator of Claim 28. Appellant respectfully submits that Claim 28 is not anticipated by Walker and is allowable for at least the reasons stated above. Given that Claims 29-34 depend from Claim 28, Appellant respectfully submits that Claims 29-34 are also allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 28-34 are allowable over Walker and that the rejection of Claims 28-34 should be withdrawn.

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5.   Claims 35-39

Claim 35 recites:

One or more computer-readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to:

receive a plurality of events;

identify a plurality of correlation functions configured to correlate the plurality of events;

apply the plurality of events to the plurality of correlation functions to determine whether any of the plurality of correlation functions are satisfied by the plurality of events; and

generate a specific event if one of the plurality of correlation functions is satisfied by the plurality of events.

As discussed above, Walker does not disclose using a correlation function configured to correlate events and generating a specific event if the events satisfy the correlation function. Thus, for at least the reasons stated above, Appellant respectfully submits that Claim 35 is not anticipated by Walker and is allowable. Given that Claims 36-39 depend from Claim 35, Appellant respectfully submits that Claims 36-39 are also allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 35-39 are allowable over Walker and that the rejection of Claims 35-39 should be withdrawn.

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6.   **Claims 40-43**

Claim 40 recites a method comprising:

> receiving events from event providers;
> correlating the events using a function; and
> if the events are correlated,
> > generating an additional event; and
> > sending the additional event to an event consumer.

As discussed above, Walker discloses a state machine that is capable of processing an event. However, Walker fails to disclose correlating multiple received events and generating an additional event if the received events are correlated.

Accordingly, for at least the reasons stated above, Appellant respectfully submits that Claim 40 is not anticipated by Walker and is allowable. Given that Claims 41-43 depend from Claim 40, Appellant respectfully submits that Claims 41-43 are also allowable over Walker for at least the same reasons.

Accordingly, Appellant respectfully submits that Claims 40-43 are allowable over Walker and that the rejection of Claims 40-43 should be withdrawn.

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Conclusion

The Office's basis and supporting rationale for the §102(e) rejection is not supported by Walker. Appellant respectfully requests that the rejections be overturned and that pending claims 1-43 be allowed to issue.

Respectfully Submitted,

Dated: 12-23-04   By: _____

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(8)   Appendix of Appealed Claims

1.   A method comprising:

receiving a plurality of events;

applying the plurality of events to a correlation function, wherein the correlation function is implemented as a state machine and is configured to correlate the plurality of events; and

generating a specific event if the correlation function is satisfied by the plurality of events.

2.   A method as recited in claim 1 wherein the correlation function is a class object.

3.   A method as recited in claim 1 further including:

receiving a data element; and

applying the data element and at least one of the plurality of events to the correlation function.

4.   A method as recited in claim 1 further including:

receiving a plurality of data elements; and

applying the plurality of data elements and the plurality of events to the correlation function.

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5.   A method as recited in claim 1 further including communicating the specific event to at least one event consumer that subscribed to the specific event.

6.   A method as recited in claim 1 further including continuing to receive additional events and apply the additional events to the correlation function if the correlation function is not satisfied by the plurality of events.

7.   A method as recited in claim 1 further including resetting the correlation function after generating a specific event.

8.   A method as recited in claim 1 further including:

creating an instance of a particular state machine; and

defining transitions for the particular state machine by subscribing to at least one event.

9.   A method as recited in claim 8 further including applying an update consumer to the particular state machine to update the state of the particular state machine.

10.   One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 1.

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11. A method comprising:

receiving a plurality of events;

receiving a plurality of data elements;

identifying a plurality of correlation functions configured to correlate the plurality of events and the plurality of data elements;

applying the plurality of events and the plurality of data elements to the plurality of correlation functions; and

generating a specific event if at least one of the plurality of correlation functions is satisfied.

12. A method as recited in claim 11 wherein each of the plurality of correlation functions is implemented as a state machine.

13. A method as recited in claim 11 wherein each of the plurality of correlation functions is an instance of a class object.

14. A method as recited in claim 11 further including communicating the specific event to at least one event consumer that subscribed to receive the specific event.

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15. A method as recited in claim 11 further including:

receiving additional events;

receiving additional data elements; and

applying the plurality of events, the additional events, the plurality of data elements and the additional data elements to the plurality of correlation functions.

16. A method as recited in claim 11 further including:

receiving additional events;

receiving additional data elements;

receiving additional correlation functions; and

applying the plurality of events, the additional events, the plurality of data elements and the additional data elements to the plurality of correlation functions and the additional correlation functions.

17. A method as recited in claim 16 further including generating the specific event if at least one of the plurality of correlation functions or at least one of the additional correlation functions is satisfied.

18. A method as recited in claim 11 wherein the specific event generated is dependent on which correlation function is satisfied.

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19. One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 11.

20. A method comprising:

identifying a schema for creating state machines, the state machines to correlate at least two events;

creating an instance of a particular state machine;

defining transitions for the particular state machine by subscribing to at least one event; and

applying an update consumer to the particular state machine to update the state of the particular state machine.

21. A method as recited in claim 20 further including deleting the particular state machine if the particular state machine reaches a final state.

22. A method as recited in claim 20 wherein the particular state machine includes a timer, the method further including deleting the particular state machine if the timer expires.

23. A method as recited in claim 20 wherein the particular state machine correlates at least one event and at least one data element.

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24. A method as recited in claim 20 wherein the particular state machine correlates a plurality of events and a plurality of data elements.

25. A method as recited in claim 20 further including determining a current state of the particular state machine.

26. A method as recited in claim 20 wherein the particular state machine is an instance of a class object.

27. One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 20.

28. An apparatus comprising:

a plurality of event consumers; and

an event correlator coupled to the plurality of event consumers, the event correlator to receive events from at least one event source and to receive data elements from at least one data source, the event correlator further to receive at least one correlation function configured to correlate events and data elements and to apply the received events and the received data elements to the correlation function, wherein the event correlator generates a specific event if the received events and the received data satisfy the correlation function.

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29.   An apparatus as recited in claim 28 wherein the event correlator communicates the specific event to the plurality of event consumers.

30.   An apparatus as recited in claim 28 wherein the event correlator communicates the specific event to event consumers that have requested to receive the specific event.

31.   An apparatus as recited in claim 28 wherein the event correlator communicates the specific event to a plurality of filters, wherein each of the plurality of filters is associated with one of the plurality of event consumers.

32.   An apparatus as recited in claim 28 wherein the event correlator includes at least one state machine to implement the correlation function.

33.   An apparatus as recited in claim 28 wherein the event correlator includes at least one state machine to implement the correlation function, wherein the event correlator identifies a current state of each state machine.

34.   An apparatus as recited in claim 28 wherein the event correlator continues to receive additional events and additional data elements and apply the additional events and the additional data elements to the correlation function.

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35.   One or more computer-readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to:

receive a plurality of events;

identify a plurality of correlation functions configured to correlate the plurality of events;

apply the plurality of events to the plurality of correlation functions to determine whether any of the plurality of correlation functions are satisfied by the plurality of events; and

generate a specific event if one of the plurality of correlation functions is satisfied by the plurality of events.

36.   One or more computer-readable media as recited in claim 35 wherein the plurality of correlation functions are implemented as state machines.

37.   One or more computer-readable media as recited in claim 35 wherein each of the plurality of correlation functions is implemented as a state machine, and wherein the state machine is a class object.

38.   One or more computer-readable media as recited in claim 37 further causing the one or more processors to identify a current state of the state machine.

39.   One or more computer-readable media as recited in claim 35 further causing the one or more processors to:

create a new instance of a state machine to implement a particular correlation function; and

define transitions for the new instance of the state machine by subscribing to at least one event.

40.   A method comprising:

receiving events from event providers;

correlating the events using a function; and

if the events are correlated,

generating an additional event; and

sending the additional event to an event consumer.

41.   The method as recited in claim 40, further comprising:

receiving data from the event providers;

correlating the events and the data with the function; and

if at least one event and the data are correlated, generating the additional event.

42.   The method as recited in claim 40, wherein the additional event is sent to the event consumer through a filter associated with the event consumer.

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PAGE 27/28 * RCVD AT 12/23/2004 5:41:03 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/0 * DNIS:8729306 * CSID:509 323 8979 * DURATION (mm-ss):06-18

43.   The method as recited in claim 40, wherein the event consumer

includes at least one of an event logging consumer, an event forwarding consumer,

a mail consumer, and a scripting consumer.

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